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#13
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RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/528,682

DATE: 05/31/2002

TIME: 12:13:19

Input Set : A:\seqlist.txt

Output Set: N:\CRF3\05312002\I528682.raw

ENTERED

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3 <110> APPLICANT: Pizza, Mariagrazia
4     Giuliani, Marzia M
5     Rappuoli, Rino
7 <120> TITLE OF INVENTION: IMMUNOGENIC DETOXIFIED MUTANT E. COLI LT-A-TOXIN
9 <130> FILE REFERENCE: 2302-0342.10
11 <140> CURRENT APPLICATION NUMBER: 09/528,682
12 <141> CURRENT FILING DATE: 2000-03-20
14 <150> PRIOR APPLICATION NUMBER: PCT/IB97/01440
15 <151> PRIOR FILING DATE: 1997-10-30
17 <150> PRIOR APPLICATION NUMBER: 09/297,171
18 <151> PRIOR FILING DATE: 1999-04-27
20 <160> NUMBER OF SEQ ID NOS: 4
22 <170> SOFTWARE: PatentIn Ver. 2.0
24 <210> SEQ ID NO: 1
25 <211> LENGTH: 240
26 <212> TYPE: PRT
27 <213> ORGANISM: Escherichia coli
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31   1           5           10           15
33 Lys Arg Ser Gly Gly Leu Met Pro Arg Gly His Asn Glu Tyr Phe Asp
34           20           25           30
36 Arg Gly Thr Gln Met Asn Ile Asn Leu Tyr Asp His Ala Arg Gly Thr
37           35           40           45
39 Gln Thr Gly Phe Val Arg Tyr Asp Asp Gly Tyr Val Ser Thr Ser Leu
40           50           55           60
42 Ser Leu Arg Ser Ala His Leu Ala Gly Gln Ser Ile Leu Ser Gly Tyr
43 65           70           75           80
45 Ser Thr Tyr Tyr Ile Tyr Val Ile Ala Thr Ala Pro Asn Met Phe Asn
46           85           90           95
48 Val Asn Asp Val Leu Gly Val Tyr Ser Pro His Pro Tyr Glu Gln Glu
49           100          105          110
51 Val Ser Ala Leu Gly Gly Ile Pro Tyr Ser Gln Ile Tyr Gly Trp Tyr
52           115          120          125
54 Arg Val Asn Phe Gly Val Ile Asp Glu Arg Leu His Arg Asn Arg Glu
55           130          135          140
57 Tyr Arg Asp Arg Tyr Tyr Arg Asn Leu Asn Ile Ala Pro Ala Glu Asp
58 145          150          155          160
60 Gly Tyr Arg Leu Ala Gly Phe Pro Pro Asp His Gln Ala Trp Arg Glu
61           165          170          175
63 Glu Pro Trp Ile His His Ala Pro Gln Gly Cys Gly Asn Ser Ser Arg
64           180          185          190
66 Thr Ile Thr Gly Asp Thr Cys Asn Glu Glu Thr Gln Asn Leu Ser Thr

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67          195          200          205
69 Ile Tyr Leu Arg Glu Tyr Gln Ser Lys Val Lys Arg Gln Ile Phe Ser
70          210          215          220
72 Asp Tyr Gln Ser Glu Val Asp Ile Tyr Asn Arg Ile Arg Asp Glu Leu
73 225          230          235          240
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80 <211> LENGTH: 3
81 <212> TYPE: PRT
82 <213> ORGANISM: Escherichia coli
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85 Lys Lys Asn
86 1
89 <210> SEQ ID NO: 3
90 <211> LENGTH: 107
91 <212> TYPE: PRT
92 <213> ORGANISM: Escherichia coli
94 <400> SEQUENCE: 3
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98 Asn Thr Asn Thr Val Thr Gln Ile Asn Gly Ser Asn Glu Val Pro Leu
99          20          25          30
101 Asp Gly Arg Tyr Ser Asn Phe Ala Leu Ile Ser Ala Glu Gly Gly Met
102          35          40          45
104 Gln Asp Gly Asp Leu Phe Gly Thr Val Asn Gln Ser Asn Phe Pro Met
105          50          55          60
107 Ser Thr Phe Glu Gln Val Pro Asn Asn Lys Glu Phe Lys Gly Val Ile
108 65          70          75          80
110 Ser Ala Asn Val Lys Tyr Asp Met Asn Phe Lys Lys Leu Leu Arg Phe
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113 Met Glu Asp Asp Phe Ile Gly Val His Gly Glu
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126 Thr Asn Thr Thr Thr Gln Phe Leu Asn Met Gly Asn Glu Val Ala Leu
127          20          25          30
129 Asp Gly Arg Tyr Ser Asn Tyr Ala Leu Ile Ser Ala Glu Gly Gly Met
130          35          40          45
132 Asp Arg Asp Leu Phe Gly Ser Ala Asn Ile Asp Gly Phe Pro Glu Val
133          50          55          60
135 Arg Glu Phe Asn Ser Leu Pro Asn Asn Lys Ala Ser Ser Asp Thr Ala
136 65          70          75          80
138 Ser Leu Asn Lys Gln His Asp Ala Asp Phe Lys Lys Tyr Ile Lys Leu
139          85          90          95
141 Leu Ile Asn Asn Asp Gly Phe Phe Ser Asn Asn Gly Gly Lys

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VERIFICATION SUMMARY

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